

Report from Fall 2019 Sabbatical Activities

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Concentration and Distraction: gaining clarity about attention span and focus.

Sabbatical Statement of Purpose

I will develop understandings about concentration and distraction in the information age by studying my personal habits, student behaviors, workplace settings, and communal gathering spaces. I will focus on the influences of Internet-connected device usage, the “always-on” mindset, and the influence of social environments such as physical locations, furnishings, and atmosphere.

Introduction

Most of us live in an environment and culture that is not conducive to stillness, to spaciousness, to being. Arguably, most of us who go online are living in a fierce machine of modern attention media that is ferociously designed to get us to neglect our down time, forget what it is like to have stillness, and to consume more media.

Additionally, many of us are unaware that the lifestyle choices we make impact our ability to maintain concentration. To add to these challenges, we work, study, and live in physical environments that might not be optimized for focus.

My exploration of concentration and distraction roamed more widely than I anticipated, but were consistently related to three ideas:

- understanding our social environment and how foreign it is to our ancestral adaptations
- how wellness and lifestyle choices affect our mental states and habitualized behaviors
- how the compounding of little daily habits impact our lives as these benign behaviors piggyback onto acts of mindless compulsion

Although I learned much, I heed the wisdom of teachers and gurus:

As our Island of Knowledge grows, so do the shores of our ignorance.
Learning more about the world doesn't lead to a point closer to a final destination, whose existence is nothing but a hopeful assumption anyways,

but to more questions and mysteries. The more we know, the more exposed we are to our ignorance, and the more we know to ask.

Marcelo Gleiser, physicist and author of *The Island of Knowledge: The Limits of Science and the Search for Meaning*

This report highlights concepts and ideas on the following categories:

Smartphones, Media, and Social Media

Online Reading

Office Settings and Study Spaces

Mindfulness, Motivation, Meditation, and Monkey Mind

Wellness and Nutrition

Sleep

Smartphones, Media, and Social Media

In an interview with me in Kalamazoo, spiritual teacher and author Mark Nepo discussed spiritual physics. He succinctly defined a challenge we face when using smartphones by likening the flow of information delivered to us via personal technology to the flow of water that keeps seeping in, filling the cracks and finding ways inside our walls, our corners, our pockets of respite. But, instead of water trickling in from gentle rain, it is a fire hose of media content delivered through our technology that is of such personal importance that we carry this highly pressurized media nozzle with us throughout our day, making it hard for us to have unsaturated time.

We open the valve of the smartphone-fire-hose-nozzle when we:

- allow push notifications
- like content and wonder if others like our posts
- impulsively check our phones
- wake up in the morning by swiping our bedside smartphone alarms, then reading news and posts from distant places before we get out of bed

If we are not mindful when we engage in the harmless gateway drug of online rootless surfing, we end up filling our down time with stimulus and make choices which lower our defenses and, arguably, our mental immune systems to stave off mindless activity.

This fierce machine of modern attention media would challenge even the most enlightened of the ancient Stoics. They described a key element of living the good life as being in

control of how we respond to stimuli. To the Stoics, satisfaction (fulfillment, contentment, ease, oneness) with what you are doing now, leads to focus.

Our inattention, impatientness, or restlessness can be a signal for us to take a break, to change course, to be intentional with our actions. When we act or think in compulsive ways, it may be a signal that we're not living with intentionality. It can be a signal that one's mindset is heading down a path that is not intentional. It can be a signal that we need to disconnect. To pause. To understand.

Internet-based media capitalizes on split focus, moving fast, grabbing one's attention, and the idea that important events are going on somewhere other than where we are now. This can be overwhelming, as it gives the impression that there is a more important life out there, going on without us, that we don't have time to fully take in. There is an immense amount of new content uploaded constantly. As of late 2019, over 500 hours of video were uploaded to YouTube every minute (Clement 2019). That is almost beyond comprehension. 500 hours every minute.

The online, targeted marketing effort from mass media to get our attention is an environment foreign to our slow moving ancestral adaptations. Couple this with our habitualized behaviors around consuming media and entertainment, and it forms a recipe for distracted mindsets.

Explore more on the LibGuide at:

<https://libguides.kvcc.edu/focus/smartphones>

and

<https://libguides.kvcc.edu/focus/socialmedia>

Possible implications for KVCC: Smartphones, Media and Social Media

A majority of our students are connected to smartphones and media at a younger age and for more hours per day than previous generations. Anxiety, restlessness, and lack of stillness impacts our students. How can we explore with students the ideas around inattention, impatientness, and restlessness to help them understand they are signals to take a break, to change course, to be intentional?

Personal Tips/Life Hacks: Smartphones, Media, and Social Media

Turn off notifications and alerts for non-essential apps. (Think of “push” notifications actually as “pull” notifications as their main purpose is to pull you back in to the app over and over to re-engage your attention.)

Log out of apps and websites to make them less easy to re-engage with.

Unsubscribe from all unwanted emails. If you are on an essential email listserv or media mailing list that is not time-critical, subscribe to a delivery option that groups/indexes all of the messages into a once-a-day or once-a-week delivery.

Learn to “surf the urge” which is a way to master internal triggers. In smoking cessation studies, researchers found that once smokers become mindful of the sensation to light up, they are more likely to stop smoking. By surfing the urge and noticing what it is we are experiencing, then allowing that sensation to peak and subside, we allow that emotion, that uncomfortable internal trigger, to crest and pass.

Tune in to when you are choosing to use your smartphone verses when your phone and media-content providing companies are using you. (Your phone is using you when you stayed on longer than planned.)

Understand symptoms of addictive behavior related to your phone use and media consumption. Symptoms include:

- Frequent interactions with the addictive thing/substance/behavior
- Difficulty withdrawing
- Limited control of use
- Neglected or postponed activities
- Significant time or energy spent on the thing/behavior
- A desire to cut down on usage

Online Reading

During my research, I was reading an online article from *The New York Times*. It was engrossing and compelling. As I got to the end of the article, ripe for a moment of contemplation and consideration, a pop-up prompting me to “Read This Next” disrupted the pause. This is not news to any of us, but it is an example of the nature of news providers who seek to keep us engaged. It challenges contemplation.

That said, some online news sources aim to support effective online reading. The *Christian Science Monitor* was an early adopter, offering readers a choice between either 'Quick Read' or 'Deep Read' lengths, with reading time estimates provided for each option. Similarly, innovative websites have reading progress bars that scroll horizontally across

the top of the web page to help readers understand where they are in the progress of the article, similar to the “time scroll bar” common on YouTube videos. Another trend is that several browsers, including Safari, Firefox, Chrome, and Edge, have reader-friendly viewing modes that reformat the text and hide advertisements.

For more background on screen reading, I created a LibGuide several years ago which can be explored at: <https://libguides.kvcc.edu/screenreading>

Nancy Pearl, author, reading advocate, and superhero librarian, researches the relationship between reading and mindset. In a presentation at a Michigan Library Association conference, Pearl said that eighty percent of liking a book is about our current mood and mindset. Similar statements could be made about learning and doing. Motivations for reading difficult content vary based on the individual. Some need the time pressure of a deadline that forces them to focus, some prefer a large chunk of time in a favorite setting, others jump into fiction for escape. A key component for successful reading is, again, a lesson from the Stoics: “I am at my best when I am doing this one thing only.”

Looking at this through the lens of anthropology and psychology, reading is not an innate human ability like communicating verbally. Reading is a learned skill. If we get out of the habit of concentrated reading practice (or never learned it), we start to lose the skill.

However, this is a complex issue, as there is likely more going on than we realize. Research has shown that the internet functions as a sort of externalized memory. When people expect to have future access to information, they have lower rates of recall of the information itself (Sparrow 2011). Reading has a variety of purposes and styles. Much internet media reading is reading as consumption, where we read to be momentarily entertained or quickly acquire information. With online reading, we can also fall into a pattern of behavior such as clicking news headlines or Twitter feeds reflexively or impulsively rather than intentionally. Our interest in online reading can be for the allure of the momentary giggle, dopamine hit, or personal status update from a friend, but it’s not actually about learning and retaining. It’s about the momentary experience of consuming media. There can be a false feeling of fluency with information flowing in; we’re understanding the words and “it seems like it is smoothly collating itself into a binder to be slotted onto the shelves of our brains,” but knowledge often doesn’t stick unless we put effort into learning. It takes concentration and active use of study strategies to improve our retention (Beck 2018).

According to Naomi Baron, a professor of linguistics at American University and author of *Words on Screen: The Fate of Reading in a Digital World*, most research shows that readers concentrate and learn best from print resources. Students retain more information and ultimately learn more using hard copies of textbooks (Baron 2015). She also warns that while the trend towards e-books makes economic sense, it may rob students in the long run. Students are more likely to be distracted when reading e-books, as the books are

often downloaded to the same devices on which students check their email and social media.

Explore the LibGuide at: <https://libguides.kvcc.edu/focus/reading>

Possible implications for KVCC: Online Reading

We have many students whose daily online reading experience is more about media consumption and entertainment than deep learning. When students depend on having future access to information, they have lower rates of recall of the information itself. Engaging with a text and reading for comprehension takes concentration and an active use of study strategies that are different from habitualized online reading behaviors.

We have generations of employees who are not adept at reading content online and students who may have less practice interacting with difficult content than previous students. This impacts reception of academic and college content.

Personal Tips/Life Hacks: Online Reading

Choose web browser view settings that optimize screen reading. I've posted a list of reader-friendly modes for your web browser at: <https://libguides.kvcc.edu/focus>

Use one web browser for work (Firefox?), another for personal surfing (Chrome), and perhaps one for incognito or anonymous browsing (Brave using the search engine DuckDuckGo).

Set up multiple virtual "desktops" on your computer for different purposes: one desktop for work, one for personal use.

Office Settings and Study Spaces

I didn't have to prompt people much to get them to talk about office layouts, personal work space preferences, and dissatisfaction with office settings.

Academic and workplace literature has covered office layouts, designs, and trends exhaustively. This topic is overwhelming in its scope, content, quality of research, and personal opinions.

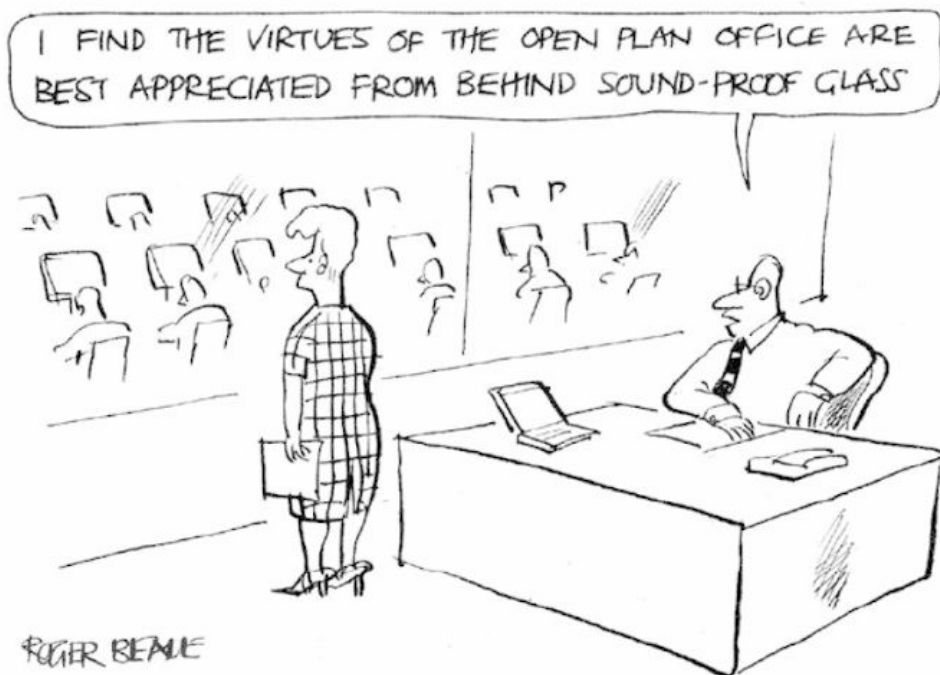
To investigate this subject further, I visited and interviewed architects and interior designers. I wanted to understand how they determine employee and business needs, and

how they subsequently apply that knowledge to design spaces that balance business goals and employee preferences.

First, a disclaimer about work performance related to furnishings and office layouts: work performance can be associated with skill level, motivation, satisfaction, level of supervision, training, development, compensation, recognition, safety, health, social context, personality, physical aptitude, change, and physical environment (Siegel & Lane, 1990). I mention this as I kept my studies focused on floorplans, things in our environment that distract us, standing desks, organizational practices, and academic study spaces.

There are many terms used to describe office floorplan configurations. I define several in the LibGuide, but the most common discussion and debate centers around the pros and cons of open office floorplans.

Open-plan office layouts are commonly expected to facilitate communication and interaction between co-workers, promoting workplace satisfaction and teamwork effectiveness. However, open-plan layouts are widely acknowledged to be more disruptive due to uncontrollable noise and loss of privacy. Based on empirical analyses available in the Center for the Built Environment's (CBE) occupant survey database, occupants prefer the Indoor Environmental Quality (IEQ) of enclosed private offices to open-plan layouts. Enclosed private offices clearly outperform open-plan layouts, particularly in acoustics, privacy, and proximity issues. Further, occupants disliked the increased noise and loss of privacy of the open-office plan far more than they liked its enhanced "ease of interaction" (Jungsoo & de Dear, 2013).



(Jungsoo &
de Dear,
2013)

Overwhelmingly, studies of office workers cited overheard conversation as their biggest workday gripe. In an office, the main distractors are “people sounds” — two-way conversations, bits and pieces of phone conversations, throat clearings, shoes walking by, and pretty much anything that attracts curiosity. Background sounds that are regular and predictable (hum of the HVAC unit) are easier to block out; it is variety and suddenness, like an outburst burst of laughter, that demand attention.

Another much-discussed office setting topic dealt with standing desks and the popular phrase of “sitting is the new smoking,” which implies that our sedentary lifestyle has negative health consequences. I visited offices of academics, paralegals, architects, web marketers, and healthcare professionals to list a few. There are a variety of personal standing desk preferences, but people are most satisfied with height adjustable sturdy standing desks that have ample table top space versus telescoping plastic sit/stand conversion contraptions that clamp to an employee's existing desk.

Below is an illustration from a KVCC eBook titled *New Demographics, New Workspace : Office Design for the Changing Workforce* by Myerson, Bichard, and Erlich which most elegantly sums up the best practices of adjustable sitting/standing desk configuration.

- ① An intelligent audio-masking system listens to background noise and creates harmonious sounds instead.
- ② Motorised height-adjustable desk allows users to stand for periods of the day. Effective for easily and quickly adapting to different ergonomic needs.
- ③ Task lights are important for ageing eyes, and off screen work, but they also allow for lower and more pleasant ambient light.
- ④ Window views should be democratically available to connect people to the outside world. Users should be able to diffuse natural light with curtains.



Design guidance on spaces for concentration
(Welcoming Workplace, 2008)

(Myerson, J., Bichard, J., & Erlich, A. 2010)

Office managers can establish and promote organizational practices and cultures that support employees who need to maintain focus. KVCC’s human resources department has “traffic light” red-yellow-green stickers on each office door to let others know if the occupant is open to interruptions. A Kalamazoo non-profit organization has quiet hours

every afternoon where no meetings are scheduled, and open area conversations are limited. Wearing headphones in the workplace is a common informal practice, but some workplaces have specific headphones, such as bright red colored sets, that are specifically used to signal to other workers that the employee wishes not to be disturbed.

Our ancestral adaptations have not set us up for success in sedentary jobs indoors for long periods of time. Humans are hardwired to be attentive to voices and human sounds around us. These two challenges alone can make offices a difficult environment for concentration.

For academic study spaces, the ability for students to create their own preferred environment is more difficult when they use shared, public spaces like library study tables or carrels. However, from KVCC studies, surveys of academic settings and readings, students prefer:

- sitting with a view of the outdoors
- study tables with ample clean, smooth tabletop space
- having their preferred soundscape, usually quiet without conversation and distractions or wearing earbuds with controlled background music or white noise
- a sense of security (safe environments, visible escape routes, in a place where others don't sneak up on them)
- food and drink
- nesting into a tidy, secluded space with few visual distractions
- being with other students who are also studying

One topic concerning college students, furniture, and college facilities that seems to be more on the fringe concerns providing students with safe, appropriate places to take a rest. Adequate sleep helps people concentrate. More on this topic later in the report.

The LibGuide covers and provides links to the following office and study space topics:

- Definitions of various office floor plan configurations
- Open office settings and occupants feeling vulnerable
- Inspirational office and meeting room photos
- Libraries and learning spaces
- Workspace satisfaction related to demographic preferences for workspaces

Explore the LibGuide at: <https://libguides.kvcc.edu/focus/studyspace>

Possible implications for KVCC: Office Settings and Study Spaces

I have a photo slideshow of academic study spaces I visited during my sabbatical travels. Studies currently underway at the KVCC Libraries are gathering more information on student furniture and furnishing preferences. These can inform future furniture and furnishings decisions.

When we design new offices, we need to understand how the employees will use the space. Natural lighting, a variety of standing and sitting workstations, and organizational policies can improve employee ability to focus.

When we design new student spaces, we should provide large, clean tabletop spaces, encourage seating near natural diffused light sources, and look for spaces where students can find a safe nest space to create and feel secure.

Personal Tips/Life Hacks: Office Settings and Study Spaces

Find a white noise sound maker that works well for you, either to listen to through headphones or earbuds or for ambient noise cover in a shared work space. Noise cancelling technology can also make large office spaces less disruptive.

When facing work that you need to focus on, clearing your desk and workspace to make it less visually distracting can increase your focus. Clearing your virtual computer desktop of clutter helps as well. Limiting yourself to one browser tab (or window) and one computer program at a time helps. If you are working on a document, close out your email browser window and put away your phone.

Mindfulness, Motivation, Meditation, and Monkey Mind

Mindfulness is awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally. It is about knowing what is on our minds.

Motivation, for this report, is defined as our capacity and mindset related to the intrinsic drive to accomplish.

Meditation is described as a breathing practice or mental mantra concentration exercise for the purpose of reaching a heightened level of awareness. But meditation is not just about the act of meditating, it is a tool that can help us learn to pause then respond to input rather than react impulsively.

Monkey Mind is an informal term that describes the constantly chattering thoughts that can dominate our mind space and drive some of what we do, what we react to, and how we

feel. The internal thoughts that go out of control, spinning daily dramas into bigger travesties, can be examples of Monkey Mind thought patterns.

These four topics are some of the most complex subjects I explored in this research project. Considered together, they lead to the realization that present-mindedness is a key to aiding focus, effective study, and accomplishment. Present-mindedness is the condition of being satisfied with what one is doing now. To the ancient Stoics, this was also the key to a better life. I mentioned this idea in the Smartphones, Media, Social Media section, and it also relates to our mental state of being.

Satisfaction (fulfillment, stillness, contentment, drive, focus, “to be or not to be”) with what one is doing now leads to concentration, promotes flow, and allows us to focus. When our mindset and thoughts stem from a place of fullness and abundance, we have a different attitude than when we come from a place of craving.

Satisfaction can come from stillness. We confuse stillness with meditation or with what the Dali Lama has. That is not the same. A sabbatical is a way to take a break, but how does one have stillness with bills to pay, mouths to feed, traffic to drive through, problems to solve, to-do lists to check? Stillness can prevail when we lock in to what we are doing. Meditation is one way to add stillness to our lives. The evidence is overwhelming that people don’t meditate and don’t want to meditate, even though scientific evidence shows that meditation helps health and performance outcomes. Meditation, however, is not magical.

Meditation is not *just* about breathing, like yoga is not *just* about stretching. Meditation can seem like a goofy practice of sitting, focusing on breath, getting distracted by thinking of something, then coming back to the breath repeatedly. Meditation can be thought of as a tool to help with gap awareness; the mental gap awareness between stimulus and response. Gap awareness can be described as being aware of an input then tuning into the spaces between input, thought, and reaction. Meditation helps develop cognitive emotional muscles that strengthen our abilities to pause during the gap, to simply be in this world, living our lives in a more still and internally connected way.

In my conversation with author and teacher Mark Nepo, he talked of observing his father who was a model ship builder. His father would acquire full-scale ship building plans, then, in his basement workshop, using wood and materials he fabricated from scratch, build models of those ships. The reward of model shipbuilding for him was the experience of total immersion; the relationship and one-ness with the flow of being. That can be reward enough.

Many conversations about mental activities eventually raise the topic of multitasking. It has been covered extensively, so I will add two points that are compelling. As MIT researcher and author Sherry Turkle points out in her excellent book *Reclaiming Conversation*, our attention is often captured and divided. “It’s almost like a third mode for your brain to exist in has been created: reactive mode” (Turkle 2016). In reactive mode, one has the illusion of control, but online attention is more often than not under the control of an algorithm. It

looks like focus, but there's no deep thinking. It looks like mental relaxation, but the mind is not free to wander and proactively determine what it will think about. We can get in the habit of reacting to someone else's agenda or our own addictive mental agenda. The second analogy comes directly from our smartphones. Some days, our phones' batteries drain faster than other days. It's as if the processor is working harder to connect. Cognitive researchers liken the draining phone battery to what our brains do while multitasking. We are burning more energy in the background. This current social environment of input from so many sources is foreign to our ancestral adaptations. Coupling this with much of society's unhealthy habitualized internal behaviors yields a difficult mindset for concentration.

Lastly, many brain training programs and apps have been found to over-promise and under-deliver. Buying a premium subscription to an app like Lumosity provides for a fun and colorful activity, but casual use of a for-profit app in a non-controlled setting is more like entertainment than a tool that substantially increases brain plasticity for most users. (Shute, V. J., Ventura, M., & Ke, F. 2015) (Lipczynska S. 2016).

Explore the LibGuide at: <https://libguides.kvcc.edu/focus/wellness>

Possible implications for KVCC: Mindfulness, Motivation, Meditation, and Monkey Mind

What conversations can we have with students about learning how to really take a mental break?

What program and sessions can we offer to teach mindfulness practices to employees and students?

Personal Tips/Life Hacks: Mindfulness, Motivation, Meditation, and Monkey Mind

Adopt mindfulness practices that bring stillness into your daily life to build the mental muscles to pause and respond to inputs rather than being jerked around by impulsive reactions.

Effective mental rest does not consume resources or media, seek entertainment, do online shopping, or engage in social media. When you have 10 minutes of downtime, exercise, go for an unplugged walk outdoors, or do absolutely nothing to give your mind time to wander.

Wellness and Nutrition

Student food habits are not optimized for mental performance. Here is a subjective observation. I have a hobby of picking up shopping lists left behind at the grocery store by other shoppers or picking up handwritten notes on the sidewalks and such. One morning, around 8:30 AM in a hallway at the college, I saw a student sitting on a bench eating from a plastic grocery bag from Family Dollar. Passing by a few minutes later, the student had left, but a sales receipt from Family Dollar was left on the bench. In the interest of recycling waste paper and out of curiosity, I reviewed the receipt's items that had been purchased earlier that morning. It showed a textbook example of low-nutrient, artificially sweetened, low-protein choices.

7 oz Wavy Lays Chips
6 oz Eatz Ranch Tortilla Chips
20oz Brisk Lemon Iced Tea, (4)
20oz Powerade Mountain Berry Blast
Tony's Pizza Rolls Snack Bites
12oz Chips Ahoy
4oz Sour Patch Kids Bag
32oz Gatorade Thirst Fruit Punch (2)
16oz Rockstar Revolt Energy Drink

It can be human nature to criticize others' food choices, which I do not intend to do. I use the receipt to illustrate one example of a KVCC student's likely food choices for the day.

This is a loaded topic, so I will keep it brief and factual: blood glucose dysregulation puts our brains into a fight-or-flight mode. Dips and spikes in blood glucose levels impact our ability to concentrate. Diets based on low-nutrient foods and sweetened beverages are common among college students as well as American society (for more info, Google "Standard American Diet" or "brain fog and diet"). There is no ideal diet for all people's health needs and goals, however, a diet of (preferably organic) colorful vegetables, some low glycemic fruits, and high quality proteins, coupled with quality fats, drinking filtered water, and intermittent fasting (12 hours overnight is a good starting point), helps many people maintain even blood glucose levels to support mental function.

Related to wellness and physical activity, one cost of technological progress is that many people in modern industrial societies do not move or exercise very much during their work day. To maintain healthy bodies, we must do aerobic and weight-bearing exercise to stay in physical shape. The costs of technological progress are not limited to the physical realm. Just as we need physical exercise in order to compensate for the loss of movement at work, we can also benefit from regular mental, spiritual, and psychological calisthenics to strengthen those areas from the damage caused by exposure to some of the toxic aspects of online media and online life.

Explore the LibGuide at: <https://libguides.kvcc.edu/focus/wellness>

Possible Implications for KVCC: Wellness and Nutrition

When KVCC offers donuts, cookies, and sugary treats to students at support sessions and welcome tables, we are not providing healthy food options to support their cognitive health and mental abilities.

Encourage students to get real, unplugged, cognitive rest during breaks in class sessions, and, if nothing else, have them move their bodies by taking a walk.

Personal Tips/Life Hacks: Wellness and Nutrition

Study your individual diet behaviors and understand how food affects you, especially concerning mental capability. Also consider your intake of quality proteins and fats, as well as understanding what foods cause blood glucose spikes and dips.

Sleep (too significant to fit under “Wellness and Nutrition”)

Feeling sleepy is a unique kind of misery. But this type of misery is so common, many people have forgotten what it feels like to be rested and refreshed. A feeling of tiredness, agitation, and fogginess is the new normal for many who do not get enough sleep. Students, along with most people in the industrialized world, are not getting enough sleep.

At the January 2020 KVCC Board Breakfast, I noticed four KVCC employees with eyes closed, nodding off during the Years of Service Recognition Ceremony. During the Provost’s Address later that day in the Commons Theater, six employees had drifted off. This is not a judgement, but an observation, and a sincere, compassionate request for all of us to pay attention to our sleep needs.

Sleep scientist Matt Walker’s TEDTalk titled “Sleep is your superpower” was one of the most viewed TEDTalk videos of 2019. His research brings to light the chronic health crisis of lack of sleep in industrialized nations. He explores America’s youth stating about 11% of teenagers are getting the 9 to 10 hours of recommended sleep per night. Meanwhile, 72% of United States parents surveyed say their teenage kids are getting enough sleep (Walker, 2019). Surveys differ, but many find a majority of teenagers are viewing screen content late at night, and a conservative estimate finds over 30% check their phones in the middle of the night. There is a big gap in parent-child understanding about sleep within the household.

Sleep is critical for developing adolescents' bodies and brains. Study after study shows physical, mental, and emotional dysfunction is associated with sleep debt.

In the 1960s, school start times were closer to 9 AM. That matched the 9 AM work start time of many adults. Many retail and commercial businesses (excluding restaurants) in the 1960s opened at 9 AM or 10 AM and closed by 6, or at the latest, 8 PM. Private business demands and hours of operation impact school-age children's sleep. The increased pressure for longer work hours and longer drive commutes from suburbs put pressure on school districts to start school earlier. Consolidation of schools and the decrease of walkable communities also put pressure on schools as students needed more time to travel farther distances to get to school. This compounded the factor of students needing to get up earlier just for school transport.

Locally, Kalamazoo United, a high school hockey team which includes teenage boys from Hackett Catholic Prep, Loy Norrix High School, and Kalamazoo Central High School, has weekday morning practices on the west side of Kalamazoo from 5:30 AM to 6:30 AM. These athletes would need to be not just in bed, but asleep, by 8 PM on the nights before practice in order to get the minimum recommended 9 hours of sleep. Several high school evening hockey games at that same rink run go until 9:30 PM on school nights, preventing student athletes from getting to bed when they need to. That is hardly justifiable if there is any concern for academic performance and mental health of these teen athletes.

Study after study shows pushing back school start times directly affects student success (Okano 2019). If school starts at 7:30 AM and the student has a long bus ride to school, they may be getting up somewhere in the late 5 o'clock hour, which is ludicrous for adolescents. Later start times for school-age children have shown to improve academic performance. Truancy, behavioral issues, and academic problems decrease. Associations of problems related to lack of sleep are more pronounced for females, African American children, and children from homes of lower socioeconomic status (Kidwell, K., et al, 2016). Psychological distress and anxiety decrease when factors allow adolescent people to get more sleep. The evidence is irrefutable. Traditional doctors often discount this. Many of our doctors went through an academic experience where bravado and lack of sleep is the cultural norm amongst their peers, professors, and mentors. Chronic sleep debt is one of the most overlooked, overlooked is not the right word ... undiagnosed, misunderstood ... ailments missed by traditional medicine and psychologists who assess anxiety, ADHD, fatigue, and stress (Walker 2019). It cannot be stated more strongly. Twenty years from now, will we look at our poor sleep behaviors as we now look at smoking's impact on our bodies?

Prescription drug use for sleeping issues is on the rise. Here is a case in point for perspective. It took *Star Wars* creator George Lucas 40 years to make \$4 billion. The drug producer that made Ambien (aka Zolpidem) made \$4 billion dollars from Ambien in less than 48 months (Walker, 2019). But here's the rub: Ambien does not produce the same natural sleep that non-drug induced sleep produces. Most of these types of drugs cause

sedation, not sleep. Sleep medications have positive impacts when they help people get through a brief occurrence of insomnia, but have negative ramifications over time. Animals in trials “sleep” longer on Ambien, but have less brain plasticity and poorer cognitive performance than the animals who had natural sleep. Ambien increases risk of depression and has residual “hangover” effects of grogginess, impaired psychomotor function, cognitive function, and may impair the ability of users to drive safely (UK Electronic Medicines Compendium, 2018).

A more common drug, used for wakefulness rather than sleep, is caffeine. Again, a loaded topic, so I’ll keep it brief. Caffeine has a half-life in the body of 6 hours and the body reacts to it as a toxin. For most people, caffeine consumed at noon is still affecting the body and brain at midnight. Caffeine tricks one’s brain by masking the sense of sleepiness. The body still needs that sleep, but caffeine tricks the mind by suppressing the warning signals of sleepiness.

People are worse at everything they do when they are sleepy. If people are trying to do things cognitively and they are sleepy, they are less able. For sports performance as well, sleepy people are less able. For people who feel they have too much to do, instead of getting up early to get a head start on their to-do list, getting more sleep can make more efficient use of their lives (Bilyeu 2018).

The most common signs of sleep debt or deprivation for adults are:

- Feeling drowsy or run down
- Mood and behavioral changes, which may include short-temper, anxiety, and depression
- Difficulty concentrating, which can result in decreased reaction times, impaired work and school performance, and an increased risk of car accidents
- Problems with higher-level functioning, such as planning, organization, and judgment
- Psychiatric symptoms including disorientation, hallucinations, and paranoia
- Physical effects, such as generalized discomfort, aches and pains, and gastrointestinal symptoms
- A small decrease in body temperature (feeling cold)

“Mother nature has no natural defense mechanism to deal with being underslept,” says sleep scientist Matt Walker (Walker, 2019). There are no mammals that deprive themselves of sleep like humans do. While some whales stay awake for long periods of time to protect their newborn young and other mammals stay awake during periods of starvation, mammals in normal natural circumstances never willfully deprive themselves of sleep.

Adequate sleep helps everyone with concentration, focus, and performance.

Explore the LibGuide at: <https://libguides.kvcc.edu/focus/sleep>

Possible Implications for KVCC: Sleep

A majority of teenagers and college-age students in America are underslept. Being underslept contributes to increased anxiety, attention deficits, physical health complications, academic struggles and difficulty, and is a poor lifelong habit. How could we improve student success at KVCC if every department on campus better understood this problem and considered this epidemic when developing policies, schedules, advice, and program offerings?

A large percentage of our employees are underslept. This affects performance, health, health care costs, and quality of our services. Developing a clear understanding of our employees' sleepiness and promoting quality sleep practices could significantly improve the quality of our employees' lives.

How does the increase in high school student enrollment at KVCC relate to the issues of sleep for teenagers?

Personal Tips/Life Hacks: Sleep

Understand factually how much sleep you get, truthfully understand how much sleep you need, and, if you are not getting enough consistent, high-quality and quantity of sleep, do something about it starting today.

Understand how having your smartphone by your bedside impacts your sleep, wakefulness, and your morning awakening activities.

Take the sleep surveys and quizzes to help us determine your sleep at:
<https://libguides.kvcc.edu/focus/sleep>

Jim's recommendations for improving concentration, reducing distraction, and enabling focus.

First, a disclaimer. Quick tips usually do not work. However, behavior change does. Finding personal motivation for change is a first hurdle to self-improvement. That said, if you take away nothing else from this report, consider the following to improve your focus and concentration and to boost cognitive control:

- 1) Objectively and factually understand how much sleep you get, understand how much sleep you need, and if you are not getting enough consistent, quality, and quantity of sleep, do something about it now. This top priority cannot be overstated.
- 2) When reading content online from commercial content providers, use your browser's reader view option that strips away ads and clearly presents the text of the article.
- 3) Turn off notifications and alerts for non-essential apps and messages. Log out of apps and websites that you wish to make less appealing to easily slip back on to. Unsubscribe from all unwanted emails.
- 4) Exercise, meditation, and spending unplugged time help boost cognitive control. Adopting mindfulness practices rewires our brains to help us respond to inputs rather than being jerked around by impulsive reactions. Mindfulness brings internal stillness and builds the mental muscles to pause and respond.
- 5) When you have a spare 10 minutes of free time, do a physical activity.
- 6) Spending an hour away from the physical presence (or common sources) of distractions can let you get more focused and help you get into a mindset to get work done. Create structure for when you invite people to interrupt you.
- 7) Wear earplugs or earphones with sound masking (white noise) or noise cancelling technology to help reduce audio distractions. Clear your work area so it is visually uncluttered and if desired, wear a visor or headwear that limits peripheral vision.
- 8) Go for a walk, preferably outdoors, during the day, disconnected from media engagement and entertainment.

Please contact me at jratliff@kcvcc.edu to continue this conversation, provide feedback, or (my personal favorite) send praise.

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